

Work Order ID 135939

Tuesday, August 25, 2015 10:10:18 AM

135939

Page 1

Item ID: D6101-007 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Saddle Billet
 Start Date: 8/25/2015 Start Qty: 30.00 ***30*** Cust Item ID:
 Required Date: 9/4/2015 Req'd Qty: 30.00 ***30*** Customer:
 Reference:

Approvals: Process Plan: ymf Date: 5-8-25 Tooling: Date:
 QC: Date: SPC (Y/N): Date:
 Run Start ***NR1***
 Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D6101	Rev B								

100 PURCHASING 0.00
100
 Purchasing Memo 0.00
 Purchasing Issue P/O: 29582
 a) Description: Alluminum billet
 b) 7.750" x 8.250" x 2.50" thick
 c) Tolerance on all dimensions are +0.030"/-0.000"
 d) Grain direction along 7.750" length
 e) Material: 7075-T7351 (QQ-A-250/12)
 f) Material certification required

CL AUG 25 2015 30

110 Receive & Inspect for Damage & Mat'l Certs 0.00
110
 Packaging Memo 0.00
 Packaging Ensure material certification is attached

30X 8015-09-23

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER : ☐			

Work Order ID 135939

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Page 2

Item ID: D6101-007 Accept ***N900040100*** Setup Start ***NS1***
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 Start Date: 8/25/2015 Start Qty: 30.00 ***30*** Cust Item ID:
 Required Date: 9/4/2015 Req'd Qty: 30.00 ***30*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC6- Inspect dimensions to drawing	0.00				30	0		DAS 14 9-89 15/09/29
120									
QC	Memo	0.00							
Quality Control	Ensure Material certification comply to Dwg D6101								
130	Identify as per dwg & Stock Location: <u>MAT04</u>	0.00				30	0		DAS 14 9-89 15/09/29
130									
Packaging	Memo	0.00							
Packaging	LOCATION: MAT044								
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.00							
Quality Control									

20150929

SH

SEP 30 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QS1042) Approval 	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	

Root Cause	FAULT CATEGORY		
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabelled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	
OTHER :			

Tuesday, August 25, 2015 10:10:17 AM

Page 1

135939

D6101-007

Start Date: 8/25/2015

Required Date: 9/4/2015

Start Qty: 30.00

Required Qty: 30.00

Comments: IPP A: 01.05.04New IssueEC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6101-007P		Purchased	No			110	Each	0.0000	1	30			
D6101-007P 7075-T7351 8.25X7.75X2.5													
** 30X8015-09-23													

DQA: _____ Date: _____



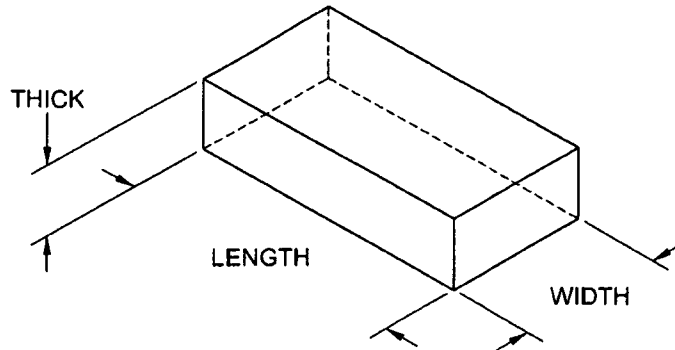
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
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Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabelled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

SPECIFICATION CONTROL DRAWING



PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.030/-0.000), AND GRAIN DIRECTION AS SHOWN.

TOLERANCES ON ALL DIMENSIONS ARE +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

B ACCEPTABLE SPECIFICATIONS FOR 7075-T7351 ALUMINUM ARE AMS-QQ-A-250/12, QQ-A-250/12, OR ASTM B209

Part No.	Alloy	Length	Width	Thick	Grain Direction
D6101-001	7075-T7351 (QQ-A-250/12)	6.000	6.250	2.000	Along 6.000 Length
D6101-003	7075-T7351 (QQ-A-250/12)	7.875	6.250	2.000	Along 7.875 Length
D6101-005	7075-T7351 (QQ-A-250/12)	5.000	8.250	2.500	Along 5.000 Length
D6101-007	7075-T7351 (QQ-A-250/12)	7.750	8.250	2.500	Along 7.750 Length
D6101-009	7075-T7351 (QQ-A-250/12)	8.700	8.250	2.500	Along 8.700 Length
D6101-011	7075-T7351 (QQ-A-250/12)	9.700	8.250	2.500	Along 9.700 Length
D6101-013	7075-T7351 (QQ-A-250/12)	10.100	8.250	2.500	Along 10.10 Length
D6101-015	7075-T7351 (QQ-A-250/12)	9.450	6.250	2.500	Along 9.450 Length
D6101-017	7075-T7351 (QQ-A-250/12)	6.350	6.250	2.250	Along 6.350 Length

RELEASED
09/07/15/W

B	ADDED D6101-015/-017, ADD ASTM B209	RF	09.04.23
A	NEW ISSUE	CP	01.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	 	DRAWING NO.	REV. B
MFG. APPR.		D6101	SHEET 1 OF 1
APPROVED		TITLE	SCALE
DE APPR.		SADDLE BILLET, 7075	NTS
DATE	09.04.23	COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

135934

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation		Disposition			

Root Cause	FAULT CATEGORY				
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO29582**

Purchase Order Date 8/25/2015

PO Print Date 8/25/2015

Page Number 1 of 2

Order From :
METAUX CASTLE
P.O. BOX 4090 STN A
TORONTO, ONTARIO M5W OE9
CANADA

VU-MET002

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

PAID
FEB 11 2016

Contact Name

Vendor Phone

Ship To Contact

Ship To Phone

Ship Via: Yours ppd

Ship Acct:

Buyer

Customer POID

Customer Tax #

Terms

Currency

FOB

Chantal Lavoie

10127-2607

Net 30

USD

Destination-Collect

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	D6101-005P	7075-T7351 8.25X5.0X2.5	9/10/2015 Yes 9/10/2015		30.00 Each	\$42.75	\$1,282.50
	AS PER DWG.D6101 REV.B B135940 SIZE: 5.00" X 8.250" X 2.50" THICK GRAIN DIRECTION ALONG 5.00" LENGHT MATERIAL: 7075-T7351 QQ-A-250/12 TOLERANCE AS PER QUOTE +.030"/-.000"						
Line Total:							\$1,282.50
2	D6101-007P	7075-T7351 8.25X7.75X2.5	9/10/2015 Yes 9/10/2015		30.00 Each	\$61.10	\$1,833.00
	AS PER DWG D6101 REV. B B135939 MATERIAL: 7075-T7351 (QQ-A-250/12) SIZE: 7.750" X 8.250" X 2.50" THICK GRAIN DIRECTION ALONG: 7.750" LENGTH TOLERANCE AS PER QUOTE +.030"/-.000"						

8015-09-23

Note:

8/25/2015

**Castle Metals®**

A. M. Castle & Co.

**BORDEREAU DE MARCHANDISES
CERTIFICAT DE CONFORMITE**

Page 1 of 2

No de Formulaire d'Emballage / Shipment No:2733542

Expédié de / Ship From:		Vendu à / Sold To:		Expédié à / Ship To:		Livré à / Deliver To:	
A. M. Castle & Co. (Canada) Inc.		DART AEROSPACE LTD 1270 ABERDEEN		DART AEROSPACE LTD 1270 ABERDEEN		DART AEROSPACE LTD 1270 ABERDEEN	
MONTREAL - CASTLE METALS 835-SELKIRK AVENUE POINTE CLAIRE, QUEBEC H9R 3S2		HAWKESBURY, ON K6A 1K7 CA		HAWKESBURY, ON K6A 1K7 CAN		HAWKESBURY, ON K6A 1K7 CA	
Date d'expédition / Date Shipped	F.O.B.	Modalités de transport / Freight Terms		Transporteur / Carrier		No du Bon de connaissance / BOL No	
22-SEP-2015	ORIGIN	Prepaid		MANITOULIN		2733542-2	

Détails d'expédition / Shipment Details				Destination finale / Final Destination Branch - MON			
N° de commande / Order No		N° de ligne / Line No	N° d'article / Item No	Description			
4034623		2	752241.MO	2.5000.PL.7075.T7351.ALUMINUM.USI. 8.25" X 7.75" CUT RECTANGLE TO 8.25 IN () X 7.75 IN () SPECIFICATIONS: AMS-QQ-A-250/12			
N° de bon de commande / Purchase Order No		Nbre de pièces / Part Number		Qté commandée / Ordered Qty		Qté Facturée / Invoice Qty	
29582		YOUR ITEM NUMBER: D6101-007		30.00 PCS		30.00 PCS	
Détails / Details		AMS-QQ-A-250/12 ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #S					
N° de livraison / Delivery No :	Usine / Mill	No de coulée / Heat Number	Code mec / Mech Id	Qty or PCS	Largeur / Width (IN)	Longueur / Length (IN)	Qté expédiée/ Shipped Qty(LBS)
120188914				12			198.3802

**Castle Metals®**

A. M. Castle & Co.

**BORDEREAU DE MARCHANDISES
CERTIFICAT DE CONFORMITE**

Page 2 of 2

120188914		13	214.9119
120188914		5	82.6584

Ces marchandises/technologies sont sujettes aux règlements de l'Export Administration et du département d'état des États-Unis. Si elles ont été/sont exportées, elles doivent se conformer à ces règlements. Toute modification du contrat de transport contraire aux lois des États-Unis est interdite.
These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.

Nous certifions par la présente que le matériel couvert par cette certification est conforme aux spécifications susmentionnées et aux exigences applicables pour le matériel, y compris toute spécification faisant partie de la description. Les rapports d'essai sont archivés pour fins de consultation. Toute requête concernant du matériel défectueux sera rejetée à moins qu'elle ne soit faite par écrit à A. M. Castle & Co. dans les 60 jours suivant la livraison. Le matériel coupé sur mesure ou coupé par le client ne peut être retourné pour crédit.
We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.

Ce matériel a été reçu et inspecté par Reviewed by Authorized Castle Metals Representative:	Date:	Name:
--	-------	-------

8915-09-23

CERTIFIED INSPECTION REPORT

Alcoa Inc.

DAVENPORT WORKS 4879 State Street Bettendorf, IA 52722

Ship From: RIVERDALE, IA.

We hereby certify that the material covered by this certificate has been inspected with, and has been found to meet the applicable requirements described therein, including any specifications forming a part of the description and that samples representative of the material met the composition limits and had the mechanical properties shown on the face of this sheet.

This test report shall not be reproduced except in full, without the written approval of the Quality Department. No alteration, addition or other change is authorized to be made to this certificate. The recording of false, fictitious, or otherwise fraudulent statements or entries on this certificate by any recipient may be punished as a felony under applicable law.

Per:

Rob Woodall

Rob Woodall
Director of Manufacturing Davenport Works

Terrance Thom

Terrance Thom
Quality Assurance Manager

Page 1 of 2

1807230 Ship Date	0 B.L. No.	Invoice No.	Alcoa No.	Item
2014-04-19	9191848	00000	1000571712-1	DP-71712-1
P.O. No./Govt Contract No.	Customer	Alcoa Item		
M49309040 Ln#: 001		G041117353R09		

Ship To:

DAS
14
9-89

15/09/29

Item Description
2.5 IN TK (+.075 -.075) X 48.5 IN W (+.3125 -
0.000) X 144.5 IN LN (+.5 -.0.0) CAT X 45341 (N) A/T 7075-
T7351 RECTANGLE MILL FINISH, US1 3MM DEAD ZONE REQ'D BOTH SIDES,
SAMED 45341. EXC MRK AMS-QQ-A-250/12F REV A AMS-STD-
2154 REV A AMS4078 REV J EXC MRK ASTM B209 REV
10 BSS7055 REV B CMMPO25 REV U CSTI006
REV B DPS4.713 CN PEOAH GAMRS9101 REV B
((MARKED)) KRAFT PAPER INTERLEAVED
MAX GROSS SKID WGT: 4500 LB QUAN TOL +/-
40 % US1 CL A 3 MM CQR 0228640 REV 09 CUST REQ 14-04-
12 *** W/E 14-04-19 ***

Num	Package Ticket	Lot	Weight	Quantity	UOM	Inspector Clock Numbers
1	620737	755671	1785	1	PC	47274

Notes for CQR: 0228640.9

PRODUCT PRODUCED TO THE REQUIREMENTS OF MIL-STD-2154 ALSO MEET THE REQUIREMENTS OF AMS-STD-2154 REV A. PRODUCT PRODUCED TO THE REQUIREMENTS OF AMS-STD-2154 REV A ALSO MEET THE REQUIREMENTS OF MIL-STD-2154. THIS MATERIAL HAS BEEN ULTRASONICALLY INSPECTED FULLY IMMERSION - TYPE I. THIS MATERIAL HAS BEEN ULTRASONICALLY INSPECTED FULLY IMMERSION - TYPE I AND MEETS REQUIREMENTS OF SEN#1. PRODUCT PRODUCED AND MARKED TO THE REQUIREMENTS OF AMS-QQ-A-250/12F ALSO MEETS THE REQUIREMENTS OF QQ-A-250/12F. PRODUCT PRODUCED AND MARKED TO THE REQUIREMENTS OF QQ-A-250/12F ALSO MEETS THE REQUIREMENTS OF AMS-QQ-A-250/12F.

CQR: 0228640.9 -Specification Limits

Temp	Dir	UTS	TYS	EL4D
		KSI	KSI	PCT
T7351	Long Transv.	Max	63.9	
		Min	66.0	52.0
				6
T7351	Elec. Cond. (EC) % MIN	38.0 PCT		



CERTIFIED INSPECTION REPORT

Alcoa Inc.

DAVENPORT WORKS 4879 State Street Bettendorf, IA 52722

Ship From: RIVERDALE, IA.

We hereby certify that the material covered by this certificate has been inspected with, and has been found to meet the applicable requirements described therein, including any specifications forming a part of the description and that samples representative of the material met the composition limits and had the mechanical properties shown on the face of this sheet.

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Per

Rob Woodall

Rob Woodall
Director of Manufacturing Davenport Works

Terence Thom

Terence Thom
Quality Assurance Manager

1807230
Ship Date

0
B.L. No.

Invoice No.

Alcoa No. Item

2014-04-19

9191848

00000

1000571712-1

DP-71712-1

P.O. No./Govt Contract No.

Customer

Alcoa Item

M49309040 Ln#: 001

G041117353R09

Page 2 of 2

CQR: 0228640.9 -Specification Limits (cont.)

Chemical Composition	SI	FE	CU	MN	MG	CR	ZN	TI	Other Each	Other Total	Aluminum
Max	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.15	
Min			1.2		2.1	0.18	5.1				REMAIN

Lot: 755671 - Mechanical, Physical, Metallography, Quantometer Results

Temp	Dir	No->	UTS	TYS	ELAD
T7351	Long Transv.	3	72.4	60.6	10.5
			72.1	60.3	10.4
			71.9	60.3	10.4

T7351 Elect Cond %IACS 40.2 40.4 40.4 PCT

Cast Number	Chemical - OBS	SI	FE	CU	MN	MG	CR	ZN	TI
H9312023	Actuals	0.05	0.27	1.7	0.01	2.6	0.19	5.8	0.02

This material was melted in the United States or a Qualifying Country [REF DFARS 225.872.1(a)]; it was manufactured in the United States

DAS
14
9-89

15/04/29



CERTIFIED INSPECTION REPORT

Alcoa Inc.

DAVENPORT WORKS 4879 State Street Bettendorf, IA 52722

Ship From: RIVERDALE, IA.

We hereby certify that the material covered by this certificate has been inspected with, and has been found to meet the applicable requirements described therein, including any specifications forming a part of the description and that samples representative of the material met the composition limits and had the mechanical properties shown on the face of this sheet.

This test report shall not be reproduced except in full, without the written approval of the Quality Department. No alteration, addition or other change is authorized to be made to this certificate. The recording of false, fictitious, or otherwise fraudulent statements or entries on this certificate by any recipient may be punished as a felony under applicable law.

Per:

Rob Woodall

Rob Woodall
Director of Manufacturing Davenport Works

Terrence Thom

Terrence Thom
Quality Assurance Manager

1818349	0			
Ship Date	B.L. No.	Invoice No.	Alcoa No.	Item
2014-04-29	9210090	00000	1000571712-1	DP-71712-1
P.O. No./Govt Contract No.	Customer	Alcoa Item		
M49309040 Ln#: 001		G041117353R09		

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Ship To:

Item Description

2.5 IN TK (+.075 -.075) X 48.5 IN W (+.3125 -
0.000) X 144.5 IN LN (+.5 -0.0) CAT X 45341 (N) A/T 7075-
T7351 RECTANGLE MILL FINISH, US1 3MM DEAD ZONE REQ'D BOTH SIDES,
SAWED 45341. EXC MRK AMS-QQ-A-250/12 REV A AMS-STD-
2154 REV A AMS4078 REV J EXC MRK ASTM B209 REV
10 BSS7055 REV B CMMP025 REV U CSTI006
REV B DPS4.713 CN PEOAH GAMP69101 REV B
(MARKED)) KRAFT PAPER INTERLEAVED
MAX GROSS SKID WGT: 4500 LB QUAN TOL +/-
40 % US1 CL A 3 MM CQR 0228640 REV 09 CUST REQ 14-04-
12 *** W/E 14-04-19 ***

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15/09/29

Num	Package Ticket	Lot	Weight	Quantity	UOM	Inspector Clock Numbers
1	624042	755812	3565	2	PC	47114
2	624044	755812	1790	1	PC	47114
			5355	3		

Notes for CQR: 0228640.9

PRODUCT PRODUCED TO THE REQUIREMENTS OF MIL-STD-2154 ALSO MEET THE REQUIREMENTS OF AMS-STD-2154 REV A. PRODUCT PRODUCED TO THE REQUIREMENTS OF AMS-STD-2154 REV A ALSO MEET THE REQUIREMENTS OF MIL-STD-2154. THIS MATERIAL HAS BEEN ULTRASONICALLY INSPECTED FULLY IMMERSION - TYPE I. THIS MATERIAL HAS BEEN ULTRASONICALLY INSPECTED FULLY IMMERSION - TYPE I AND MEETS REQUIREMENTS OF CON#1. PRODUCT PRODUCED AND MARKED TO THE REQUIREMENTS OF AMS-QQ-A-250/12 ALSO MEETS THE REQUIREMENTS OF QQ-A-250/12. PRODUCT PRODUCED AND MARKED TO THE REQUIREMENTS OF QQ-A-250/12 ALSO MEETS THE REQUIREMENTS OF AMS-QQ-A-250/12.

CQR: 0228640.9 -Specification Limits

Dir	UTS	TYS	EL4D
	KSI	KSI	PCT
77352 Long Transv.	Max	63.9	
	Min	66.0	52.0
77351 Elec. Cond. (EC) % MIN			38.0



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Per:

Rob Woodall

Rob Woodall
Director of Manufacturing Davenport Works

Terence Thom

Terence Thom
Quality Assurance Manager

1818349
Ship Date

0
B.L. No.

Invoice No.

Alcoa No. Item

2014-04-29

9210090

00000

1000571712-1

DP-71712-1

P.O. No./Govt Contract No.

Customer

Alcoa Item

M49309040 Ln#: 001

G041117353R09

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CQR: 0228640.9 -Specification Limits (cont.)

Chemical Composition		SI	FE	CU	MN	MG	CR	ZN	TI	Other	
										Each	Total
	Max	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.15
Alloy 7075	Min			1.2		2.1	0.18	5.1			
Lot: 755812											REMAIN

- Mechanical, Physical, Metallurgy, Quantometer Results

Temp	Dir	No->	UTS	TYS	EL4D
T7351	Long Transv.	3	69.9	59.1	9.6
			70.3	59.3	10.8
			69.9	58.9	9.8

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T7351 Elect Cond %IACS 40.5 44.0 40.5 PCT

Cast Number	Chemical - OES	SI	FE	CU	MN	MG	CR	ZN	TI
H9321022	Actuals	0.07	0.26	1.5	0.02	2.5	0.19	5.5	0.02

This material was melted in the United States or a Qualifying Country [REF DFARS 225.672.1(a)]; it was manufactured in the United States



INSPECTION REPORT

Alcoa Inc.

DAVENPORT WORKS 4879 State Street Bettendorf, IA 52722

Ship From: RIVERDALE, IA.

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Per:

Rob Woodall

Rob Woodall

Director of Manufacturing Davenport Works

Terrence Thom

Terrence Thom
Quality Assurance Manager

Page 1 of 2

1718641 Ship Date	0 B.L. No.	Invoice No.	Alcoa No.	Item
2014-01-31	9043834	00000	1000561412-1	DP-61412-1
P.O. No./Govt Contract No.	Customer	Alcoa Item		
M49307212 Ltr#: 001		G041117353R08		

Ship To:

DAS
14
9-89

15/09/29

Item Description
2.5 IN TK (+.075 -.075) X 48.5 IN W (+.3125 -
0.000) X 144.5 IN LN (+.5 -0.0) CAT X 45341 (N) (A/T 7075-
T7351) RECTANGLE MILL FINISH, US1 3MM DEAD ZONE REQ'D BOTH SIDES,
SAVED 45341. EXC MRK AMS-QQ-A-250/12 DIS 2007 AMS-STD-
2154 REV A AMS4078 REV J EXC MRK ASTM B209 REV
10 BSS7055 REV B CMMPO25 REV U CSTI006
REV E OPS4.713 CN PEOAH GAMP59101 REV B
((MARKED)) KRAFT PAPER INTERLEAVED
MAX GROSS SKID WGT: 4500 LB QUAN TOL +/-
40 % US1 CL A 3 MM COR 0228640 REV-08 CUST REQ 14-02-
15 *** W/E 14-02-22 ***

Num	Package Ticket	Lot	Weight	Quantity	UOM	Inspector Clock Numbers
1	588279	668521	1775	1	PC	47306
2	596295	715751	3557	2	PC	47430
3	596296	715751	3561	2	PC	47430
			8893	5		

Notes for CQR: 0228640.8

PRODUCT PRODUCED TO THE REQUIREMENTS OF MIL-STD-2154 ALSO MEET THE REQUIREMENTS OF AMS-STD-2154 REV A. PRODUCT PRODUCED TO THE REQUIREMENTS OF AMS-STD-2154 REV A ALSO MEET THE REQUIREMENTS OF MIL-STD-2154. THIS MATERIAL HAS BEEN ULTRASONICALLY INSPECTED FULLY IMMERSION - TYPE I. PRODUCT PRODUCED AND MARKED TO THE REQUIREMENTS OF AMS-QQ-A-250/12 ALSO MEETS THE REQUIREMENTS OF QQ-A-250/12. PRODUCT PRODUCED AND MARKED TO THE REQUIREMENTS OF QQ-A-250/12 ALSO MEETS THE REQUIREMENTS OF AMS-QQ-A-250/12.

CQR: 0228640.8 -Specification Limits

Temp	Dir	UTS KSI	TYS KSI	ELAD PCT
T7351	Long Transv.	Max	63.9	
		Min	66.0	6

T7351 Elec. Cond. (EC) % MIN 38.0 PCT



CERTIFIED INSPECTION REPORT

Alcoa Inc.

DAVENPORT WORKS 4679 State Street Bettendorf, IA 52722

Ship From: RIVERDALE, IA.

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Per:

Rob Woodall

Rob Woodall
Director of Manufacturing Davenport Works

Tenence Thom

Tenence Thom
Quality Assurance Manager

Page 2 of 2

1718641	0			
Ship Date	B.L. No.	Invoice No.	Alcoa No.	Item
2014-01-31	9043834	00000	1000561412-1	DP-61412-1
P.O. No./Govt Contract No.	Customer	Alcoa Item		
M49307212 Lot#: 001	G041117353R08			

CQR: 0228640.8 - Specification Limits (cont.)

Chemical Composition	SI	FE	CU	MN	MG	CR	ZN	TI	Other	Other
Max	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.15
Min			1.2		2.1	0.18	5.1			REMAIN

Alloy 7075
Lot: 668521 - Mechanical, Physical, Metallography, Quantometer Results

Temp	Dir	No->	UTS	TYS	EL4D
Test			KSI	KSI	PCT
7351	Long Transv.	3	70.9	59.5	10.5
			69.7	58.2	10.4
			69.7	58.3	10.6

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T7351 Elect Cond %IACS 41.5 41.0 41.6 PCT

Cast Number	Chemical - OES	SI	FE	CU	MN	MG	CR	ZN	TI
H9254016	Actuals	0.06	0.27	1.6	0.01	2.4	0.20	5.7	0.02

Lot: 715751 - Mechanical, Physical, Metallography, Quantometer Results

Temp	Dir	No->	UTS	TYS	EL4D
Test			KSI	KSI	PCT
7351	Long Transv.	3	71.5	60	10.5
			71	59.3	10.4
			71.7	59.6	10.2

T7351 Elect Cond %IACS 40.1 39.9 40.2 PCT

Cast Number	Chemical - OES	SI	FE	CU	MN	MG	CR	ZN	TI
H9265046	Actuals	0.07	0.28	1.6	0.03	2.5	0.20	5.7	0.02

This material was melted in the United States or a Qualifying Country [REF DFARS 225.872.1(a)]; it was manufactured in the United States



MATERIAL RECEIPT INSPECTION FORM

MATERIAL: D6101-007
DATE: 15/09/29

PO / BATCH NO. 29582/135939

MATERIAL CERT REC'D: yes
QUANTITY RECEIVED: 30
QUANTITY INSPECTED: 30
QUANTITY REJECTED: _____

THICKNESS ORDERED: 7.75X8.25X2.50
THICKNESS RECEIVED: 7.75X8.25X2.50
SHEET SIZE ORDERED: _____
SHEET SIZE RECEIVED: _____

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	☒	
CORRECT FINISH	☒	N	
CORROSION	Y	☒	
CORRECT GRAIN DIRECTION	☒	N	
CORRECT MATERIAL	☒	N	
CORRECT THICKNESS	☒	N	
PHOTO REQUIRED	Y	☒	
CORRECT MATERIAL	☒	N	
CORRECT REF # TO LINK CERT	☒	N	
CORRECT MATERIAL IDENTIFICATION	☒	N	
CORRECT M# ON THE MATERIAL	☒	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	☒	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	☒	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW				
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D
SIZE OF TEST SAMPLE				
HARDNESS / DUROMETER READING				

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>DAS</u>	SIGNED OFF BY: _____		
DATE: <u>15/09/29</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

MATERIAL RECEIPT INSPECTION FORM

INSTRUCTIONS FOR INSPECTING BAR, TUBING, ROUND, & SHEET STOCK

- 1- VERIFY STOCK TO DART PURCHASE ORDER
- 2- MEASURE ALL DIMENSIONS FOR EACH PURCHASED STOCK
 - a. WIDTH, THICKNESS, DIAMETER, WALL THICKNESS & LENGTH
- 3- VERIFY CONDITION OF MATERIAL i.e. DAMAGED, CORRODED, etc.
- 4- VERIFY THAT SUPPLIER HAS A NUMBER (HEAT #) ON ITS RECEIVING REPORT TO LINK TO MATERIAL CERTS
- 5- VERIFY MATERIAL CERTS ARE CORRECT TO THE DART PO INSTRUCTIONS
- 6- REMOVE / CUT A PIECE OF MATERIAL FOR SAMPLE HARDNESS TESTING

INSTRUCTIONS FOR INSPECTING SKIDTUBE & STEP EXTRUSION

- 1- VERIFY TO DART SUPPLIED DRAWING
- 2- SAMPLE INSPECT MATERIAL IN BUNDLE TO ENSURE MATERIAL CAN BE RECEIVED INTO DART
- 3- USING PORTABLE HARDNESS TESTER VERIFY HARDNESS OF THE MATERIAL TO THE DRAWING
- 4- VERIFY THAT MATERIAL CERTS MATCH TO WHATS CALLED UP ON THE DART DRAWING

AFTER MATERIAL PASSES INSPECTION

- 5- HAVE DART EMPLOYEES START STOCKING MATERIAL BUT REQUEST MIN 20pcs FOR FULL INSPECTION
- 6- INSPECT ALL DIMS AS PER DRAWING REQUIREMENTS

INSTRUCTIONS FOR INSPECTING CROSS TUBE MATERIAL

- 1- VERIFY MATERIAL CERTS MATCH THE REQUIREMENTS ON THE DART DRAWINGS
- 2- INSPECT MIN. HALF THE BATCH OF EXTRUSION RECEIVED INTO DART
- 3- INSPECT MATERIAL AS PER THE EXTRUSION REPORT
 - a. WALL THICKNESS USING ULTRA-SONIC IN 4 LOCATIONS
 - b. OUTSIDE DIAMETER HIGHEST/LOWEST BOTH ENDS
 - c. INSIDE DIAMETER HIGHEST/LOWEST BOTH ENDS
 - d. STRAIGHTNESS @ CENTER OVER 12" SPAN
 - e. WALL THICKNESS USING TUBE MICROMETER HIGHEST/LOWEST BOTH ENDS
- 4- IDENTIFY EACH TUBE IN SEQUENCE OF INSPECTING (TUBE 1, TUBE 2,) AND W/O# AND PO#
- 5- RECORD ALL FINDINGS ON EXTRUSION REPORT

IF ANY QUESTIONS PLEASE SEE QC COORDINATOR BEFORE GOING FURTHER